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Inspection of the Eli Lilly, Inc. RCRA Incinerator in Mayaguez, Puerto Rico

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I inspected the RCRA Hazardous Waste Incinerator at Eli Lilly, Inc. in Mayaguez, Puerto Rico on June 14, 1990. The attached list discusses the deficiencies found during the inspection. As you can see in this extensive list Lilly is not complying with the permit in a number of areas, including several repeat violations. The cumulative effect seems to show a corporate disregard for the permit, which is the only tool EPA has for ensuring continuing compliance with the RCRA regulations. The Inspection Checklist is included as Appendix 1, along with several appendices consisting of copies of data from Lilly.

If we can be of any assistance in developing an enforcement action, please call me at FTS 340-6764.

Attachment

cc: Cliff Ng, 2AWM-HWF
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ELI LILLY RCRA INCINERATOR DEFICIENCIES

Incinerator Inspection

1. Total Dissolved Solids were 7.18% when the permit limit is 3%.

2. Venturi scrubber blowdown pH was 7.03 when the permit limit is 8. However, the automatic waste feed cutoff (AWFCO) is required by permit to be set at 7. Lilly should be able to rely on the AWFCOs to maintain compliance with this permit. Either the permit limit or the required waste feed cutoff setpoint should be changed.

3. The heating value of the primary waste burned during the inspection was 3803.9 BTU/lb, when the permit requires that the heating value be greater than 3850 BTU/lb.

Review of Computer Records

Copies of some of the computer print-outs (Appendix 2) were requested to document the problems. The computer print-out is the record of incinerator parameters required by the permit. Violations of the permit can only be documented when either primary or secondary waste had been fed for the entire hour, as indicated by the minimum waste feed rates. The charts are numbered to indicate each problem cited below. These charts do not represent every occurrence, but a sampling to show the types of problems encountered.

It was not possible to verify instances when the automatic waste feed cutoffs shut down the waste feeds, since it is not possible to determine if the parameter was exceeded before or after the waste feed stopped. Lilly is working on changes to the computer program that would show shut downs caused by the AWFCO system. Many of the problems found on the print-outs are instances when the AWFCO system did not function.

1. The quench temperature measured and then recorded by the computer had not been the value required by the permit. The temperature recorded was before the quench instead of after. This was recently corrected, but all previous records had been incorrect.

2. The rolling averages for the CO limits were not recorded on the computer. Rolling averages are recorded by a strip chart recorder, however, the permit requires the computer record. The computer program was recently modified to include one of the two required rolling averages.

3. Waste was fed to the incinerator on numerous occasions when the required total dissolved solids monitor was not operating. This can be seen as a -.833 in the last column of the print-out.

4. Waste was fed to the incinerator on numerous occasions when the required pH meter in the venturi blowdown line was not operating. This can be seen as a -.466 in the fourth column of the print-out.

5. The venturi pressure drop was below the required 35"H_2O. Although, in some cases, the minimum was only about 1"H_2O below the limit, the average was, in some cases, also below the limit. In other cases, the pressure drop was 5" below the permit limit. More care should be used when Eli Lilly personnel test and adjust the setpoint limit for the AWFCO. The venturi should be operated sufficiently over the permit limit to allow for normal process fluctuations.

6. Maximum O_2 concentrations above 10% were noted on the print-outs.

7. Venturi water flow of less than the permit limit of 70 gpm were noted.

8. The kerosene flow meter was not working. During these periods, the print-out indicates that no primary waste or kerosene was being fed, but that proper temperature was maintained. Since the secondary waste does not have the heating value necessary to maintain temperature, there must have been kerosene feed. Therefore, the meter must have been malfunctioning.

9. Waste was fed either with the O_2 monitor not operating or with the O_2 concentration above 10%.

10. Secondary waste was fed when the total dissolved solids reading was above 3%.

Calibration Records

Calibration records (Appendix 3) show that the O_2 Monitor was calibrated on 1/22/90, 7/6/89, and 1/23/89. These calibrations were done electronically, not with calibration gases. Lilly indicated during the inspection that calibrations are done weekly with calibration gases. The permit requires this calibration daily. Lilly agreed to submit verifications of the weekly gas calibrations.

Calibration records (Appendix 4) show that the CO monitor was calibrated with gases on 3/19/90, 11/16/89, 8/7/89, 3/9/89, 11/21/88, and 7/14/88. Lilly indicated that these calibrations are done weekly. The permit requires this calibration daily.

Records for AWFCOs (Appendix 5) show that setpoints have been checked monthly, at least starting in May 1990. The permit requires weekly checks. The CO rolling average AWFCOs have not been checked at all.